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Department of Public Health

Sustainability Plan

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1. Agency Information, Impact Identification and Sustainability Team

1.1 Agency Description and Scope

DPH Mission: Helping People Lead Healthy Lives in Healthy Communities

- We believe in the power of prevention.
- We work to help all people reach their full potential for health.
- We ensure that the people of the Commonwealth receive quality health care and live in a safe and healthy environment.
- We build partnerships to maximize access to affordable, high quality health care.
- We are especially dedicated to the health concerns of those most in need.
- We empower our communities to help themselves.
- We protect, preserve, and improve the health of all the Commonwealth's residents

Department of Public Health has:

- Approximately 1,400 staff in 9 leased spaces; approximately 850 of these staff are located in the DPH Headquarters at 250 Washington Street, Boston.
- Approximately 400 staff in buildings owned by other state agencies
- Four hospitals, which DPH owns and operates. These hospitals have approximately 1,600 staff and 750 patients

- The four hospitals have a combined total of over 1,000 acres of land. Land that is not built on is used for: open space (both natural and landscaped), agriculture (through the Department of Agricultural Resources Program), client programs and amenities, summer camps for special-need children, historical cemetery, and community programs. Programs from other state agencies also have space at DPH facilities.
- DPH owns about 100 passenger vehicles, 12 heavy-duty vehicles, and several special equipment vehicles. DPH also makes use of the state vehicle pool/renting capabilities. Vehicles are used for staff transportation to sites and meetings, client and patient transportation, maintenance (including snow plowing), and other day to day needs.
- DPH serves the public, other state and federal agencies, and municipalities along with its clients, statewide. The number of people who have direct contact with DPH has not been estimated.

1.2 Agency Impacts on the Environment and Human Health

- Building fuel use:
 - #6 oil, #4 oil, natural gas and diesel.
 - For heating and cooling buildings for the use of patients, clients and staff. Fuel also provides backup electricity via generators.
 - Impacts include air pollution (indoor and outdoor), greenhouse gas emissions, potential spills (groundwater and soil impact) and issues involved with extraction and transportation
- Electricity use:
 - amount for owned facilities: 18,000,000 kWh
 - Approximate costs/amounts for leased facilities are not known; costs are built into the lease.
 - For lighting, office and medical equipment, individual heating/cooling units, cooking and other uses for all facilities to meet staff, patient and client needs.
 - Impacts come from generation and transmission, including air pollution and greenhouse gas emissions. Transmission may be a health risk and is a known safety issue.
- Vehicle Fuel use:
 - Approximately 23,000 gallons gasoline for cars and 10,000 gallons diesel for heavier duty vehicles
 - For transportation of staff to sites and meetings, for clients, and for maintenance of facilities.
 - Causes air pollution and greenhouse gas emissions as well as the impacts relating to extraction and delivery

- Building water use:
 - Amount for owned facilities is about 85,000 gallons
 - Cost and amount for overall water use leased facilities is not known because these items are included in the lease and not separately tracked or billed. Some of our leased facilities are supplied with bottled water.
 - Water is used for drinking, cooking, washing/bathing, laundry, medical needs, a swimming pool located at Mass Hospital School and landscaping.
 - Impacts come from collection and treating water, potential watershed impacts, and treating and disposing of sewage. This may lead to water quality and quantity issues, as well as potential spills from water treatment chemicals.
- Medical supplies and waste: Hospitals have a variety of special wastes. Many medical wastes are autoclaved or incinerated before ultimate disposal, and so may lead to more air pollution than typical solid wastes. There is also additional transportation and packaging involved in medical waste handling. Medical waste from our facilities may also include some chemical waste handling.
- Hazardous materials: Our facilities deal with many hazardous materials used in daily operations. These chemicals, if not use, handled and disposed of properly, can become air, water or soil pollution. Some of these products, even if used properly, can lead to indoor air pollution. Below are some of the types of products used.
 - Cleaning products, including medical sanitizers
 - Boiler and drinking water treatment chemicals
 - Maintenance products, including paint
 - Oils, greases
 - Automotive products, new and waste
 - Pesticides and herbicides
 - Office equipment supplies
 - Coolants/refrigerants
 - Mercury and other PBTs
 - Batteries and universal wastes
 - Asbestos-containing materials (when they are removed during renovations, repairs or demolitions)
- Solid waste: Solid wastes are not hazardous materials, but they still use landfill space and can contribute to environmental degradation. Some solid waste can also contain small amounts of hazardous materials, such as a mercury switch, or used oil.
 - Paper and paper waste
 - Food service waste, including food waste
 - Used equipment

- Other solid waste
- Land use issues:
 - Open space
 - Agriculture
 - Ground, surface and stormwater
- Staff and client transportation issues: Beyond the use of state-owned vehicles, employees, clients and visitors use other means of transportation to work at, visit or receive services at our facilities. This includes personal automobile use and various forms of public transportation. This can lead to air pollution and other environmental degradation. The location and accessibility of our facilities, and the availability of alternatives, partially determines our impacts in this regard.
- Ongoing environmental compliance including:
 - Air permitting;
 - Hazardous waste and hazardous materials compliance;
 - Tewksbury Hospital public water supply drinking water regulation compliance;
 - NPDES small MS4 stormwater compliance;
 - MCP compliance; and
 - Compliance with all other relevant environmental laws and regulations.

1.3 Agency Operational Costs

The DPH facilities spent the following amounts of money for environmentally-related items in FY04, rounded to the nearest thousand dollars:

- Electricity: \$1,925,000
- Vehicle fuel: \$72,000
- Building fuel (including diesel, #6 oil and #4 oil): \$420,000
- Water treatment chemicals for HVAC systems: \$53,000
- Water service and sewage disposal: \$1,043,000
- Natural gas: \$2,420,000
- Hazardous waste removal services: \$191,000
- Non-hazardous waste removal services: \$246,000
- Environmental remediation and related compliance costs vary each year depending on activities, and was over \$200,000 for FY04

Data on these costs are not currently collected for our leased facilities because the costs for HVAC, electricity, water and sewer are included in our leases and not billed separately.

1.4 Agency Sustainability Team Members

- Ruth Alfasso, Compliance Officer and DPH's sustainability coordinator;
- Philip McCauley, Assistant Commissioner/Director, Hospital Bureau
- Bill Kelleher, Director of General Services, Tewksbury Hospital
- David Asselin, Director of Facilities, Western Massachusetts Hospital
- William O'Hare, Western Massachusetts Hospital
- Ed Nicosia, Director of Facilities, Lemuel Shattuck Hospital
- Tom Campbell, Lemuel Shattuck Hospital
- Rick Pollara, Massachusetts Hospital School

2. Long-Term Goals/Vision

2.1 Long-Term Goals

Contribute to the health of all residents in Massachusetts, by:

- Using sustainable/renewable energy sources for all owned and leased buildings.
- Demonstrating excellent land stewardship and natural resource protection at our facilities as a model for others
- Using locally and sustainably grown food and products in our food service, reusable or compostable service items and compost all food waste.
- Developing a way to keep excellent records, prevent medical errors and protect patient privacy with less paper and other resources.
- Reducing air pollution impacts to indirectly reduce the financial and health burdens on those with respiratory and cardiovascular disease.

3. Short-term Actions and Priorities

3.1 Priority Areas and Goals

- *Reduce energy use in buildings*
- *Reduce solid waste generation from all facilities*
- *Reduce overall use of hazardous materials for EPPs*
- *Begin environmentally friendly leasing agreements*
- *Increase land stewardship*

3.2 Agency Action Steps

To reduce energy and fuel use:

- Massachusetts Hospital School: Will investigate the feasibility and potential benefits of a controller unit for the facility boilers which provide heat to the facility. This unit is designed

to reduce the fuel use and emissions which will reduce the amount of #6 fuel oil used at the facility. The responsible party for carrying out this action step will be Rick Pollara of the Hospital School. This activity is planned for 2005.

- Massachusetts Hospital School: Will investigate a grant program for use of photovoltaic equipment on the site. Some photovoltaic units have already been installed and additional units are planned if the money is available. The responsible party for carrying out this action step will be Rick Pollara of the Hospital School. This activity is planned for 2005-2006.
- Lemuel Shattuck Hospital: The boiler plant at Lemuel Shattuck is new as of 2002 and met existing DEP and EPA requirements for emission control technologies. Fuel consumption and emissions from this boiler will be kept as low as possible through proper use, maintenance and tracking of fuel and operating parameters. Regular maintenance and adjustments of this system will be tracked through CAMIS (Capital Asset Management Information System) with a commitment from the facility to ensure working order. One key element of this program is the regular repair and replacement of steam traps; broken or maladjusted steam traps waste steam and increase the facility's energy consumption. The responsible party for these actions is Ed Nicosia, Director of Facilities.
- Lemuel Shattuck Hospital: Unused floors in the Personnel Building will have the doors removed from individual rooms, and two out of every three electrical heating units disconnected. This will allow enough circulated heat to prevent damage to the building while saving energy. The responsible party for this action is Ed Nicosia Director of Facilities.
- Tewksbury Hospital: This facility is finalizing a large-scale energy and water conservation project organized through the Division of Capital Asset Management. Under this project, the facility has upgraded their boilers; added satellite boiler and heating units to outlying buildings; replaced lighting with more energy efficient units; installed energy control systems; installed a photovoltaic system; and performed other energy efficiency upgrades. This project is also in the process of replacing window-based air conditioners with a centralized system and installing a cogeneration system for distributed energy generation. Overall these improvements are planned to save fuel and electricity and improve comfort, control and tracking of energy use. This project has also allowed the facility to upgrade the sanitary sewer to reduce infiltration and inflow, which will reduce the amount of clean groundwater being treated as sewage. The responsible parties for this effort include William Kelleher, Director of General Services at Tewksbury Hospital and Jenna Ide from DCAM.
- Tewksbury Hospital: This facility is planning to install additional electric metering equipment in buildings where non-DPH programs operate. Currently, rent for these facilities includes the electricity. Metering will allow DPH to charge for actual usage; this is expected to encourage conservation and to allow facility staff to detect changes in usage which might indicate the need for maintenance. This is planned for 2005. The responsible party for this will be William Kelleher, Director of General Services at the facility.
- Western Massachusetts Hospital: This facility is investigating the use of a fuel cell for electricity. They have received a feasibility grant of \$20,000 from the Massachusetts Technology Collaborative (MTC) for this investigation. Because the facility is a hospital with 24-hour operation, a fuel cell will not only provide "clean" distributed generation of power, it will operate as a primary power source, with the electric grid as the secondary (backup) source, which will save on the need for less-efficient diesel emergency generators.

The feasibility portion of the project is happening now; if the project is feasible and if money can be made available, the purchase and installation of the fuel cell unit will occur in 2007. The responsible party for this action is David Asselin, Director of Facilities.

- Western Massachusetts Hospital: A building demolition project will occur at this facility in 2005. There are several old storage buildings that are unused but are still heated. These buildings will be demolished and the steam systems to them will be cut and capped. This may provide an energy savings. The demolition will occur in accordance with DCAM practices. The responsible party for this action is David Asselin, Director of Facilities.

Solid Waste Reduction:

- Lemuel Shattuck Hospital has participated in a pilot project with DEP to utilize Resource Management for their waste handling. They hired a Resource Management contractor in 2003 and have been satisfied with the increased level of recycling, decreased cost and simplified handling and billing with this method of contracting. Based on these positive results, both Tewksbury Hospital and Mass Hospital School have committed to making their next waste contracting bid of a Resource Management type. These will occur in 2005. If a Resources Management type contractor can be selected and used, these facilities expect to see significant improvements in the amount of wastes captured for recycling along with measurable cost savings. Lemuel Shattuck Hospital will be addressing food waste composting and medical waste reduction with their Resource Management contractor in 2005.

Hazardous Material Reduction and EPPs:

- The DPH hospitals underwent significant mercury reduction in 1999 and 2000 and now are almost mercury free. We intend to continue reducing any existing mercury and to prevent the reintroduction of mercury-containing equipment, devices or chemicals through materials management.
- Mass Hospital School: This facility has a materials management committee which reviews all new items planned for purchase at the facility. The review includes not only efficacy and usability considerations, but also the environmental consequences of the items. This committee will be used to increase the environmental friendliness of future purchases, and to document the decisions made. The responsible coordinator for this effort is Bob Barknecke, the hazardous materials manager at the facility.

Water Use:

- Tewksbury Hospital is a registered non-transient non-community water supply. The facility keeps very close track of the water used at the facility, and performs leak detection and repairs on a yearly basis. Some water and significant sewer use reductions are expected as a result of the Energy and Water Performance contract described above. Mike Donovan is the water treatment operator at the facility and he is the overall responsible party for water distribution issues. William Kelleher, Director of General Services is responsible for scheduling and contracting for leak detection, repairs and related issues.

- The Mass Hospital School uses well water instead of treated potable water for boiler make-up and swimming pool use. Additional uses of well water for non-potable uses are being investigated. Rick Pollara is the responsible party for these efforts at the facility.

Land Stewardship:

- Tewksbury Hospital: Recently, DPH worked with DCAM and the state legislation to pass a bill protecting significant acreage at the facility from development, and allowing its use for passive recreation. The lead DPH responsible party for this is Phil McCauley, Assistant Commissioner/Director of the DPH Hospital Bureau.
- Tewksbury Hospital: The facility has recently rewritten and negotiated leasing agreements for various organizations which use land at the facility for agriculture and community services. The new agreements include requirements designed to ensure the facility stays in compliance with various environmental laws and good practice. These leasing agreements will be reviewed and renewed yearly with attention towards preventing environmental problems, complying with existing and new regulations, and keeping the land in good condition for existing and potential future needs. Review. The responsible party for this effort is Bill Kelleher, Director of General Services at the facility.
- Tewksbury Hospital: The facility has been working with the Bay Circuit Trail Alliance to allow them access for the portion of the trail that passes through the facility's land. This agreement should be completed in 2005. The responsible party for this is Phil McCauley, Assistant Commissioner/Director of the DPH Hospital Bureau.
- Western Mass Hospital: The facility will be constructing a new salt shed for storage of the road salt needed for de-icing the facility's roads, parking lots and walkways. This new building will replace an existing, obsolete, building, and will prevent the accidental release of salt to the land and water bodies existing on and adjacent to the facility. This project is scheduled for 2005. The responsible party is David Asselin, Director of Facilities.

Compliance Issues:

- The DPH hospitals have started an internal facility audit program to identify compliance and related issues and keep staff up-to-date on new and changing regulations. It is currently planned to internally audit every facility each year. If additional funding can be found, specific area audits or external trainings will also be conducted by a contractor on areas of special concern.

Items Pertaining to Leased Spaces:

- DPH leases office space for employees in several buildings in greater Boston as well as in some regions. Some regional offices are located in our Hospitals, and would be covered under the sustainability planning for that facility
- For the additional space we lease, which has office space for approximately 1,400 staff, we have less control over the facilities aspects of the space, including HVAC, lighting, and water fixtures. Sustainability planning for these spaces is expected to be limited to the following goals:

- Improved paper recycling
- Increased use of double-sided printing and copying
- Increased awareness of environmental issues, particularly those pertaining to DPH's mission (e.g., pollution prevention and health)
- In addition, the DPH headquarters in Boston has started the process of securing a new lease. This leasing process will use the current DCAM performance standards for leased spaces which include some environmental criteria. It is hoped that improved environmental performance and ability to track environmental parameters can be achieved by this new lease, among all the other variables required.

4. Management Systems and Institutionalization

4.1 Integrating Environmental Impacts into Key Decision Points

There are both agency-wide decision points and facility-specific decision points. At the facility level, each hospital has committees or other bodies that are responsible for items like purchasing, training and contracting. The hospitals all have an Environment of Care committee which is in charge of items relating to their mission of providing hospital services. Lemuel Shattuck Hospital has a Green Team as well which deals primarily with issues of recycling. Mass Hospital School has a committee which reviews all chemical and related purchases to decrease the hazard to employees and patients.

The sustainability effort at the hospital level will be improved over the short and medium term through the following means:

- Ongoing Hospital Bureau level meetings, approximately every two weeks. The focus of these meetings is broad and includes hospital issues not related to sustainability, but this group does have key decision-makers for the Hospital Bureau and the Compliance/Sustainability coordinator in regular attendance.
- Increased frequency of hospital Facility Managers meetings. These meetings benefit the hospitals by allowing the staff to share successes and other information related to environmental issues. These meetings will be planned for every two months (5-6 times per year) and will be held at the different facilities to allow staff to learn from each other. The Sustainability Coordinator will schedule and participate in these meetings as well.
- Improved coordination between different agencies operating at our facilities:
 - Two of the DPH hospitals are operated in conjunction with Department of Mental Health. An improved organizational structure for these hospitals is being implemented. While the impetus for these changes is operational, the changes will also benefit employee training, purchasing and other points where our sustainability efforts can be targeted.

- These and our other facilities have spaces and programs operated by other state agencies and non-state organizations. Increased coordination with these agencies will assist us in targeting messages about sustainability.

The agency-wide decision points for DPH start at the Commissioner's Office. Suzanne K. Condon, Associate Commissioner, is the senior Clean State/Sustainability coordinator for the Department; she has been involved in DPH's compliance and sustainability efforts since the original Clean State executive Order was signed in 1994. In 2000, Ruth Alfasso joined DPH as the Compliance Officer for the Clean State Program; she has also assumed responsibility for DPH's sustainability effort. Philip McCauley, Assistant Commissioner/Director, Hospital Bureau, has also been involved with compliance and sustainability efforts, including working with other agencies in our Secretariat and with DCAM on issues of funding. These individuals are able to bring sustainability concerns to the DPH's Associate Commissioner for Hospitals and Clinical Laboratories as well as the DPH Commissioner and others at DPH.

4.2 Education and Training of Staff

Education and training of hospital staff is an important part of maintaining our mission as hospitals. Currently, education and training is done as a part of a staff member's job function and compliance and sustainability-related issues are built in to training for functions such as: waste handling, HVAC maintenance and lawn and yard work. Staff are trained upon orientation, annually where required by law or for hospital certifications, and as needed. Facility management staff attend outside trainings for new and changed regulations when these are available.

At present, there is no formal method of training office-level staff in our leased spaces on sustainability items.

DPH has started implementing a training management system called "Y Not Learn" which helps users and supervisors plan and track trainings needed and completed and keep applicable records. This system includes both classroom and computer-based trainings.

4.3 Management Systems

At this time, DPH does not have a formal environmental management system. It is likely that facility-level decision making will be the basis for ongoing compliance and sustainability planning, as each of our facilities operates as a closed system. Facilities management will be making increased use of available systems such as CAMIS (Capital Asset Management Information System) to plan, remember and track sustainability tasks and compliance-related issues, such as: preventative maintenance of HVAC systems, permit submittals and storm water catchbasin cleaning.

Overall management and reporting are the responsibility of Ruth Alfasso, the Compliance Officer/Sustainability Coordinator.

5. Tracking Progress and Program/Plan Review

5.1 Agency Tracking and Reporting Form

The agency tracking and reporting is conducted by Ruth Alfasso, the Compliance Officer/Sustainability Coordinator who polls each facility for the required data and compiles this information into a single document.

Increased detail in tracking is being achieved at the facilities through better metering and introduction of new systems. At Tewksbury Hospital, for example, the DCAM Energy and Water Performance Contract included an energy management system and increased reporting under the air permit. This assists them in better tracking environmental data. The Resource management waste contractor at Lemuel Shattuck also keeps more detailed records on waste disposal and recycling. If other hospitals are able to use this approach, better data on recycling and waste disposal will result.

5.2 Continuous Improvement

DPH is committed to continuously improving its environmental performance and sustainability planning. The following mechanisms will be used to ensure that DPH does not lose focus on sustainability while fulfilling its mission:

- The group listed under sustainability team above will meet at least five times a year to share experiences and report on activities. New goals and activities will be encouraged, discussed and reported on any time they are considered. These meetings will be convened and chaired by Ruth Alfasso, the DPH sustainability coordinator;
- DPH will continue to participate in the Sustainability Council and committees, where we are able to draw on the experiences of our colleagues in other departments, learn about new efforts, and assist others in meeting compliance and sustainability goals;
- When we perform our tracking and reporting activities for the year, we will also be reviewing this plan and reporting on our progress for both internal use and external audiences.